

(19)



JAPANESE PATENT OFFICE

PATENT ABSTRACTS OF JAPAN

(11) Publication number: **07102340 A**

(43) Date of publication of application: **18.04.95**

(51) Int. Cl.

C22C 38/00
C21D 6/00
C21D 8/00

(21) Application number: **05271201**

(22) Date of filing: **05.10.93**

(71) Applicant: **NIPPON STEEL CORP**

(72) Inventor: **TAKAHASHI TOSHIHIKO**
ISHIKAWA FUSAO
OCHI TATSURO

**(54) PRODUCTION OF NON-HEATTREATED STEEL
EXCELLENT IN FATIGUE CHARACTERISTIC**

(57) Abstract:

PURPOSE: To produce a non-heattreated steel excellent in fatigue strength, machinability, and yield strength and used for automobile and machine structural parts.

CONSTITUTION: This steel has a composition containing, by weight ratio, 0.15-0.50% C, 0.005-2.00% Si, 0.40-2.00% Mn, 0.01-0.10% S, 0.0005-0.05% Al, 0.003-0.05% Ti, 0.0020-0.0200% N, 0.20-0.70% V, and

one or ≈ 2 kinds among specific amounts of Cr, Mo, Nb, Pb, and Ca. Moreover, the structure is regulated so that (ferrite + pearlite) structure comprises $\approx 90\%$ of the metallic structure after cooling is done after hot forging and transformation is finished, and further, aging treatment is performed at 200-700°C. By this method, the production of the non-heattreated steel excellent in fatigue characteristic, machinability, and yield characteristics is made possible, and extremely large industrial effects can be produced.

COPYRIGHT: (C)1995,JPO